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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,233	11/12/2003	Tomohiro Wakabayashi	Q78419	3543

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EXAMINER

LE, THANH TAM T

ART UNIT PAPER NUMBER

2839

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/705,233	Applicant(s) WAKABAYASHI ET AL.	
	Examiner Thanh-Tam T. Le	Art Unit 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

Page 2, line 3, "nd" should be changed -- end --.

Page 4, line 1, "compris d" should be changed -- comprised --.

Page 6, line 1, "f rrule" should be changed -- ferrule --.

Page 9, line 2, "r sin" should be changed -- resin --.

Page 10, line 1, "structur" should be changed -- structure --.

Page 11, line 1, "l nses and f rrules" should be changed -- lenses and ferules--.

Page 11, line 2, "th" should be changed -- the --.

Page 12, line 1, "xcessively invading th inner portion" should be changed -- excessively invading the inner portion --.

Appropriate correction is required.

### ***Claim Objections***

3. Claims 1 and 5 are objected to because of the following informalities:

Claim 1, line 1, "f rrule" should be changed – ferrule –

Claim 5, line 1, "Th" should be changed -- The --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 7 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Borsuk et al. (4,666,238).

Regarding claims 1 and 9, Borsuk et al., figures 1 and 5, disclose a coupler (86) formed with a hollow portion, a ferrule (10) attached to a terminal of an optical fiber, the ferrule comprising:

- a main body (14) and
- a leading end portion (12, optical lens) integrated with the main body to serve as a convex lens such that light emitted from a core wire (36) of the optical

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fiber (34) is made to be parallel light, while incident light is focused onto the core wire.

Regarding claims 2 and 10, Borsuk et al., figures 1 and 5, disclose a coupler (86) formed with a hollow portion, a ferrule (10) attached to a terminal of an optical fiber, the ferrule comprising:

- a main body (14) and
- a convex lens (12, optical lens) integrated with a leading end (12) of the main body such that light emitted from a core wire (36) of the optical fiber (34) is made to be parallel light, while incident light is focused onto the core wire.

Regarding claim 3, at least leading end portion comprises of optically transparent resin.

Regarding claim 4, the main body is formed with a hole (18) into which the core wire is inserted such that a clearance is formed between a deepest portion of the hole and a leading end of the core wire; and the clearance is filled with filler such that the clearance serves as a light guide path.

Regarding claim 5, the filler comprises of adhesive (54) for fixing the optical fiber in the hole.

Regarding claim 7, the filler is comprising of an optically transparent gel.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borsuk et al. (4,666,238).

Borsuk et al., column 6, lines 57-60, disclose the index matching adhesive which has a refraction index similar to both the glass and the plastic material and the claimed invention as described above except for the refractive index of the adhesive/gel is selected to be greater than a refractive index of a material forming the leading end portion, having a refractive index difference corresponding to a numerical aperture of the core wire. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Borsuk et al. to have the refractive index of the adhesive/gel is selected to be greater than a refractive index of a material forming the leading end portion, having a refractive index difference corresponding to a numerical aperture of the core wire, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).


**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL  
8/5/04.

  
T. Le